



Diabetes mellitus type 2; an international challenge

Masoud Amiri*

Social Health Determinants Research Center, Shahrekord University of Medical Sciences, Shahrekord, Iran

***Correspondence to**

Masoud Amiri;
Email: masoud.amiri@yahoo.com

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Core tip

It is of great importance, especially for adults, to keep track of their blood glucose level regularly. It is clear that lifestyle could have a great impact on whether someone develops diabetes or not. Regular physical exercise, loss of weight and a well-balanced diet can all contribute to the prevention of acquiring diabetes or at least delay the point of time of someone acquiring diabetes.

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According to the World Health Organization (WHO), the number of people with diabetes has risen dramatically in the past three decades; while there were only about 108 million diabetes patients in 1980, in 2014 that number has risen by approximately 300 million to 422 million diabetes patients worldwide (1). According to these statistics, the diabetes prevalence has been rising more swiftly in low- and middle-income countries than in wealthier countries (1). However, scientists have not still been able to give a clear declaration about this fact. The incidence of diabetes was high in countries such as Saudi Arabia (23.9%), Qatar (19.8%), Turkey (14.8%) and Mexico (12.6%), compared to the more developed countries such as Germany (7.9%), Denmark (6.1%) and the Netherlands (5.0%), which have relatively low percentages of diabetes-incidence (2). Considering a load at the diabetes prevalence in each country, can clearly reveal that developing countries have a higher diabetes-incidence in comparison with the more developed countries. Furthermore, it is clear from the statistics that nearly half of all deaths referable to high blood glucose take place ahead of the age of 70. In fact, the increase in the prevalence of diabetes worldwide has led the WHO to project that diabetes will be the seventh leading cause of death by 2030, which is a really concerning issue (2).

There are two main types of diabetes; type 1 and type 2. Diabetes type 2 is the most

prevalent among people. In diabetes type 1 a damaged pancreas causes the disease, which ensures a decline in the production of insulin by the pancreas (1). The hormone insulin plays a major role in the regulation of blood glucose levels; an insulin deficiency, or an inability to satisfactorily react to insulin, can indeed result in a specific type of diabetes. Whereas in diabetes type 1 the low insulin production is causing the disease, in diabetes type 2 the insulin production is not the issue. There might be enough insulin available, but the issue is that the cells are not able to engage enough insulin and finally utilize (1). This is called insulin resistance. The absence of this hormone (insulin) could result in a high blood sugar level, also referred as hyperglycemia. To solve the high blood sugar level caused by insulin resistance, the pancreas will initially produce additional insulin to compensate the high blood sugar level. But at the end, it is not able to keep up producing additional insulin and thus it cannot make ample insulin to keep your blood glucose at a normal level.

If one asks a group of diabetes type 2 patients about the symptoms of the disease, he/she will probably be expected to hear the following symptoms: feeling dizzy, increased thirst, frequent urination, increased hunger, loss of weight and feeling very tired. Although it is difficult for scientists to understand why exactly people develop diabetes type 2, but it is plain that certain factors may increase the risk of be-

ing involved with diabetes: little physical exercise, overweight, smoking, genetic factors (1).

In contrast to diabetes type 1, which mainly develops at a young age, this type of diabetes (type 2) is mainly diagnosed in the late stages of life. Therefore, it is of great importance, especially for adults, to keep track of their blood glucose level regularly (3). This could contribute to the identification of an eventual disease like diabetes. If diabetes remains untreated, it may harm other vital organs in the body. But an early recognition of the disease ensures that we take action quickly (through medication) and so lessen the seriousness of the disease.

Nowadays, most people with diabetes could regulate their blood sugar level by taking tablets or by injecting insulin to themselves. The most prevailing medications to treat diabetes type 2 are metformin and sulfonylureas. There are also new antidiabetic drugs in stock, but there is still some uncertainty about their effects. It is clear that lifestyle could have a great impact on whether someone develops diabetes or not (4). Sometimes just a change in lifestyle can have a beneficial effect. Regular physical exercise, loss of weight and a well-balanced diet can all contribute to the prevention of acquiring diabetes or at least delay the point of time of someone acquiring diabetes.

Author's contribution

MA was the single author of the manuscript.

Conflicts of interest

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Ethical considerations

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